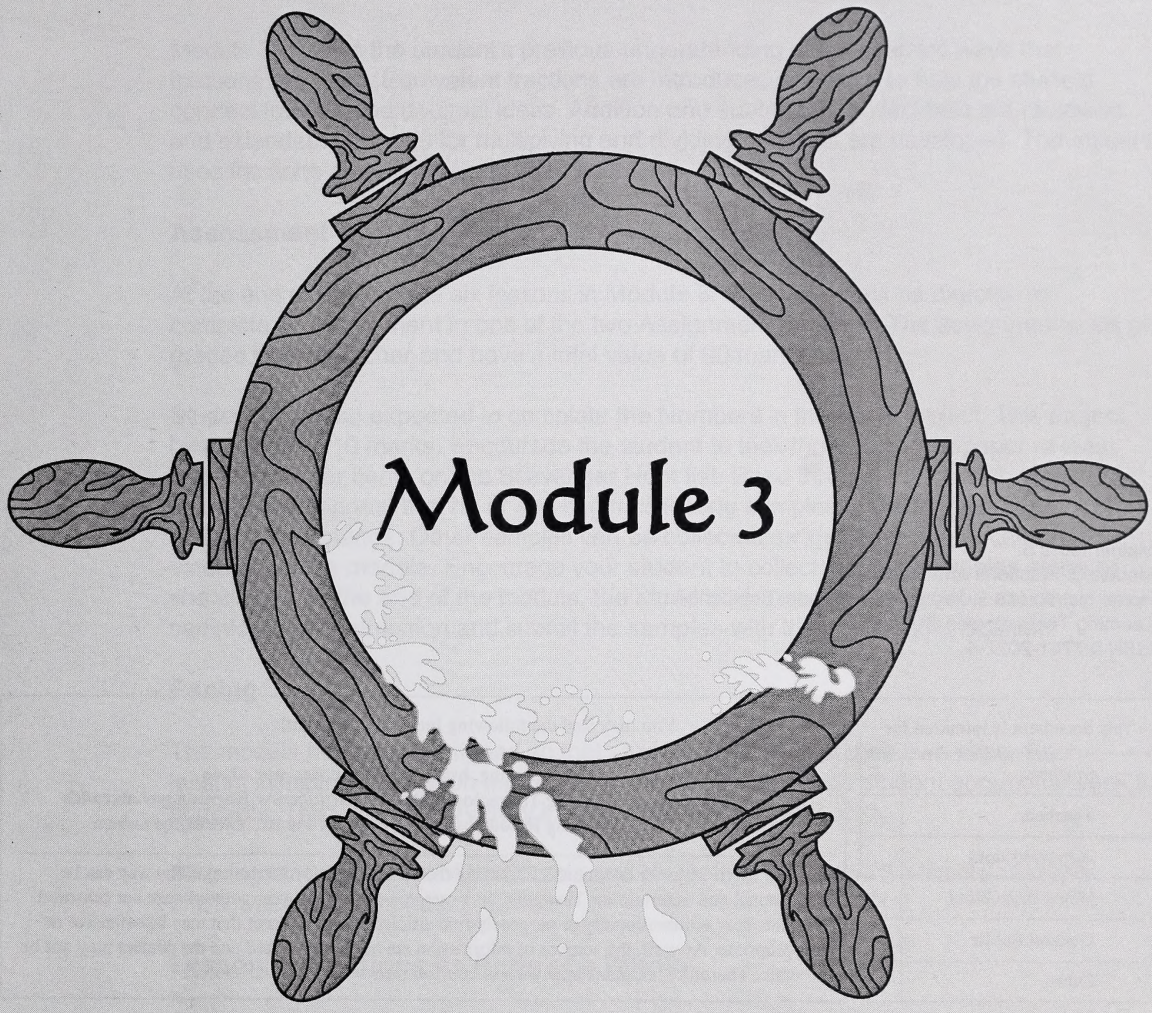
Mathematics 5



Home Instructor's Guide and Assignment Booklet 3A

Learning Technologies Branch

Alberta LEARNING

Mathematics 5
Module 3: Fractions and Decimals
Home Instructor's Guide and Assignment Booklet 3A
Learning Technologies Branch
ISBN 0-7741-2027-4

This document is intended for	
Students	✓
Teachers	✓
Administrators	
Home Instructors	✓
General Public	
Other	

You may find the following Internet sites useful:

- Alberta Learning, **http://www.learning.gov.ab.ca**
- Learning Technologies Branch, **http://www.learning.gov.ab.ca/ltb**
- Learning Resources Centre, **http://www.lrc.learning.gov.ab.ca**

The use of the Internet is optional. Exploring the electronic information superhighway can be educational and entertaining. However, be aware that these computer networks are not censored. Students may unintentionally or purposely find articles on the Internet that may be offensive or inappropriate. As well, the sources of information are not always cited and the content may not be accurate. Therefore, students may wish to confirm facts with a second source.

Module 3: Fractions and Decimals

Overview

Module 3 reviews the student's previous understanding of the different ways that fractions are used. Equivalent fractions are introduced and used to help the student connect fraction and decimal ideas. Addition and subtraction of decimals are reviewed and extended. Methods for multiplying and dividing decimals are developed. The student uses fractions and decimals to solve problems.

Assessment

At the end of each of the six lessons in Module 3, the student will be directed to complete an assignment in one of the two Assignment Booklets. The assignments will be graded by the teacher and have a total value of 90 marks.

Students are also expected to complete the Numbers in the News project. This project has a value of 10 marks. Encourage the student to look through a newspaper at least once a week for items on the Scavenger Hunt list. Read through the list with your student and suggest that he or she begin collecting samples of the ideas that he or she already understands. Other samples can be collected as ideas are introduced or extended in the module. Encourage your student to collect as many samples as he or she wishes. At the end of the module, the student will need to choose at least one sample for each question and submit the samples with the Assignment Booklet.

Pacing

The module has been designed so that students can work at their own pace. Each lesson, including the lesson assignment, will take the average student about one week to complete. The Challenge Activity in each lesson is optional.

Allowing time for review of basic facts and project work, Module 3 will take students 6 to 7 weeks to complete.

Lesson 1: Fractions as Parts of a Whole

Overview

Lesson 1 focuses on using fractions to represent parts of wholes and extends this idea to representing equivalent fractions.

Special Requirements

You may gather the following materials for your student to use in this lesson:

- pencil crayons, marker, or crayons
- scissors
- paper to fold

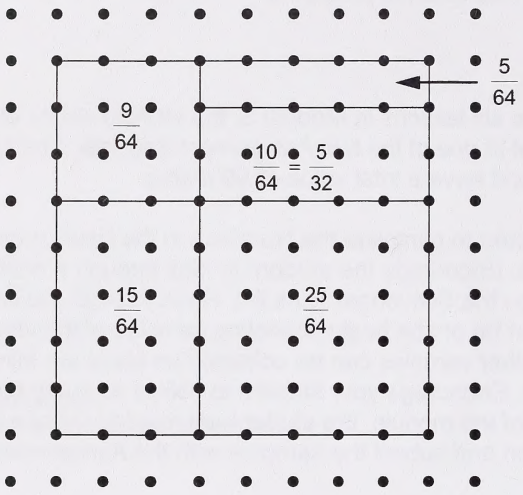
Sharing Time

There is one Sharing Time in this lesson—at the end of Activity 4.

Activity 4 Sharing Time

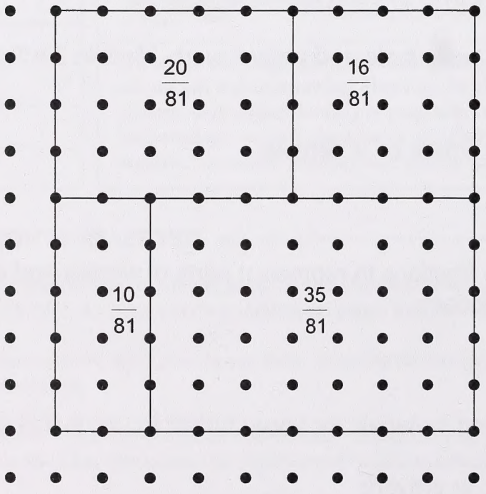
Practice and Homework Book, page 47, questions 1 to 4. Answers will vary. Following are sample answers.

1.



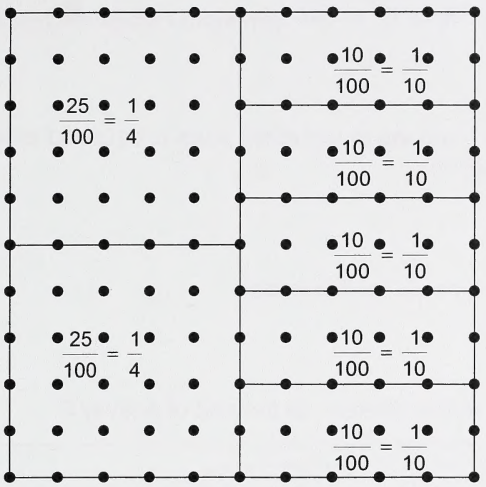
$$\frac{9}{64}+\frac{15}{64}+\frac{5}{64}+\frac{10}{64}+\frac{25}{64}=1 \quad \text{or} \quad \frac{9}{64}+\frac{15}{64}+\frac{5}{64}+\frac{5}{32}+\frac{25}{64}=1$$

2.



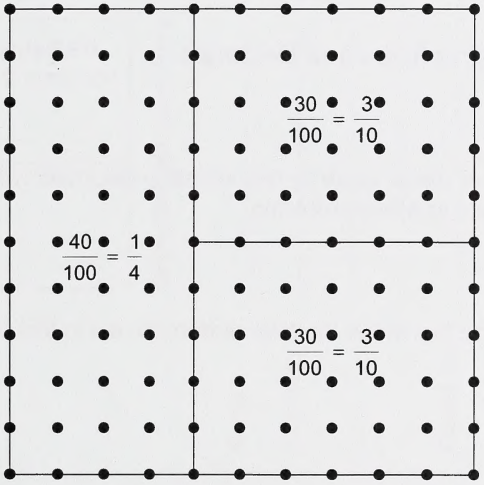
$$\frac{20}{81}+\frac{16}{81}+\frac{10}{81}+\frac{35}{81}=1$$

3.



$$\frac{1}{4}+\frac{1}{4}+\frac{1}{10}+\frac{1}{10}+\frac{1}{10}+\frac{1}{10}+\frac{1}{10}=1$$

4.



$$\frac{1}{4}+\frac{3}{10}+\frac{3}{10}=1$$

Lesson 2: Fractions as Parts of a Set

Overview

Lesson 2 focuses on using fractions to represent parts of sets and extends this idea to representing equivalent fractions.

Special Requirements

There are no special requirements for this lesson.

Sharing Time

There is one Sharing Time in this lesson—at the end of Activity 3.

Activity 3 Sharing Time

Discuss problem solving with your student and give him or her encouragement. Problem-solving skills will improve with time. The problems in Activity 3 illustrate that a diagram is often helpful to visualize a problem. It is important that the student understands equivalent fractions.

Lesson 3: Connecting Fractions and Decimals

Overview

Lesson 3 extends the idea of place value by representing decimals with concrete materials and using decimals to solve problems.

Special Requirements

You may gather the following materials for your student to use in this lesson:

- base ten blocks

Sharing Time

There is no Sharing Time in this lesson. However, take every opportunity to point out fractions and decimal numbers in the everyday world.

ASSIGNMENT BOOKLET 3A

Mathematics 5

Module 3: Lesson 1 Assignment, Lesson 2 Assignment, and Lesson 3 Assignment

Home Instructor's and Student's Comments:

STUDENT FILE NUMBER
(if label is missing or incorrect)

_____

Date Submitted:

_____

Apply Module Label Here

Name

Address

Postal Code

Please verify that preprinted label is for correct course and module.

FOR SCHOOL USE ONLY

Assigned Teacher:

_____

Date Assignment Received:

_____

Grading:

_____

Teacher's Comments

_____

Teacher's Signature

Home Instructor: Keep this sheet when it is returned to you as a record of the student's progress.

INSTRUCTIONS FOR SENDING IN THIS DISTANCE LEARNING ASSIGNMENT BOOKLET

When you register for distance learning courses, you are expected to send in Assignment Booklets for corrections regularly. Try to send each Assignment Booklet as soon as you have completed it. Before sending your Assignment Booklet, please check the following:

- Are all the assignments completed? If not, explain why.
- Has your work been reread to be sure the spelling and details are correct?
- Is the record form filled out and the correct module label attached?

MAILING

1. Postage Regulations

Do **not** enclose letters with Assignment Booklets.

Send all letters in a separate envelope.

2. Postage Rates

Take your Assignment Booklet to the post office and have it weighed. Attach enough postage and seal the envelope. Assignment Booklets will travel faster if correct postage is used and if they are in large envelopes that are no more than two centimetres thick.

FAXING

1. Assignment Booklets may be faxed. Contact your teacher for the fax number.

2. All faxing costs are the responsibility of the sender.

E-MAILING

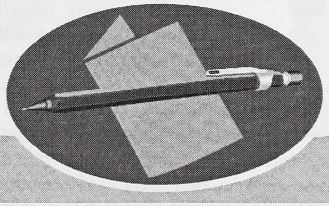
Assignment Booklets may be e-mailed. Contact your teacher for the e-mail address.

Mathematics 5

Module 3

Fractions and Decimals

Assignment Booklet 3A



Learning Technologies Branch

Alberta LEARNING

FOR TEACHER'S USE ONLY

Summary

	Total Possible Marks	Your Mark
Lesson 1 Assignment	22	
Lesson 2 Assignment	17	
Lesson 3 Assignment	14	
	53	

Teacher's Comments

Mathematics 5
Module 3: Fractions and Decimals
Assignment Booklet 3A
Lesson 1 Assignment, Lesson 2 Assignment, and Lesson 3 Assignment
Learning Technologies Branch

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ASSIGNMENT BOOKLET 3A
MATHEMATICS 5—MODULE 3: FRACTIONS AND DECIMALS

Your mark on this module will be determined by how well you do your assignments in the Assignment Booklets.

Work slowly and carefully. If you are having difficulties, go back and review the appropriate lessons.

There are three lesson assignments in this Assignment Booklet. The total of these assignments is 53 marks. The value of each assignment is stated in the left margin.

Be sure to proofread each assignment carefully.

(22)

Lesson 1 Assignment: Fractions as Parts of a Whole

(8)

1. Turn to page 101 in your textbook and answer questions 1 to 8 of Practise Your Skills.

1. _____ **2.** _____ **3.** _____ **4.** _____

5. _____ **6.** _____ **7.** _____ **8.** _____

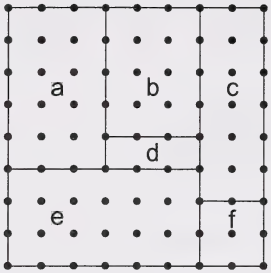
(4)

2. Turn to page 106 of the textbook and express each of the following fractions of the day in simplest form.

School: $\frac{6}{24} =$ _____ Sleeping: $\frac{9}{24} =$ _____

Track: $\frac{3}{24} =$ _____ Homework: $\frac{2}{24} =$ _____

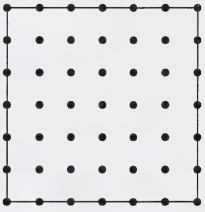
(6) **3.** Label each part of the following square as a fraction in simplest form.



a. _____ **b.** _____ **c.** _____

d. _____ **e.** _____ **f.** _____

(2) **4. a.** Using only horizontal and vertical lines, connect the dots to make a square whose area is $\frac{1}{9}$ of the area of the given square. Explain how you know the square you have drawn is $\frac{1}{9}$ of the given square.

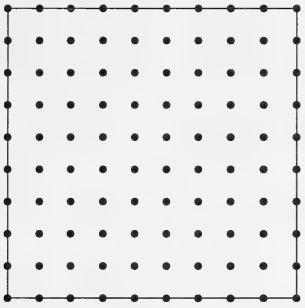


_____

_____

_____

(2) **b.** Using only horizontal and vertical lines, connect the dots to make a square whose area is $\frac{4}{9}$ of the area of the given square. Explain how you know the square you have drawn is $\frac{4}{9}$ of the given square.



_____

_____

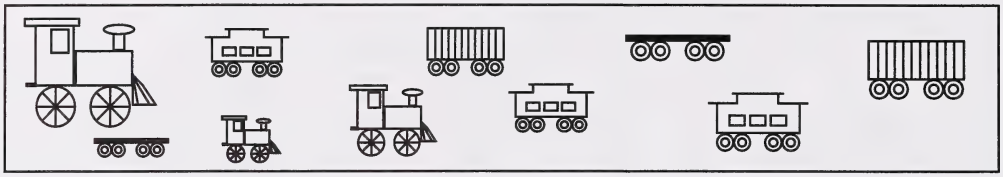
_____

_____

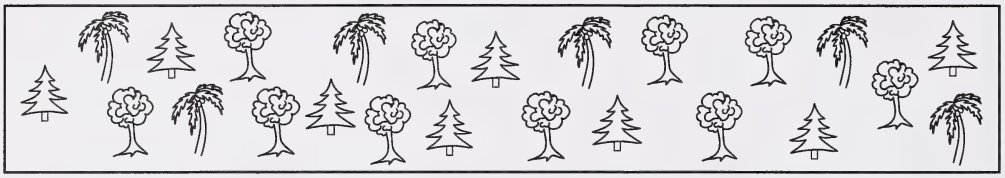
17

Lesson 2 Assignment: Fractions as Parts of a Set

(1) **1.** Circle $\frac{2}{5}$ of the set of train cars.



(1) **2.** Circle $\frac{4}{6}$ of the set of trees.



(1) **3.** Circle $\frac{5}{10}$ of the set of flowers.

4. Draw pictures and circle the fraction of the pictures given for the following sets.

(1) **a.** Draw a set of triangles. Circle $\frac{2}{3}$ of them.

(1) **b.** Draw one set of hearts and another set of stars so that there is a different number of hearts than stars. Circle $\frac{1}{4}$ of both sets.

(1) **c.** Draw one set of happy faces. Colour $\frac{1}{2}$ of them red and $\frac{1}{3}$ of them blue.

(1) **d.** Draw one set of stars. Colour $\frac{2}{3}$ of them red and $\frac{1}{6}$ of them green.

5. Turn to page 98 in your textbook. Do questions 2.a., 2.b., 2.d., and 2.f. of Starting Out.

(4)

2.a.: _____

2.b.: _____

2.d.: _____

2.f.: _____

6. Turn to page 103 in your textbook. Do questions 1 and 2 of Practise Your Skills.

(6)

1.a.: _____

1.b.: _____

1.c.: _____

2.a.: _____

2.b.: _____

2.c.: _____

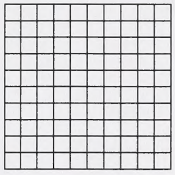
14

Lesson 3 Assignment: Connecting Fractions and Decimals

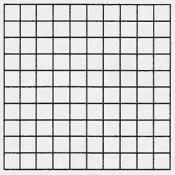
1. Turn to page 125 of your textbook. For questions 1 to 8 in Practise Your Skills, write the fraction as a decimal and show the decimal by shading the diagram.

(8)

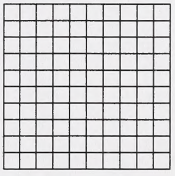
1. Decimal: _____



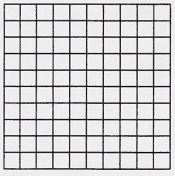
2. Decimal: _____



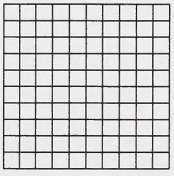
3. Decimal: _____



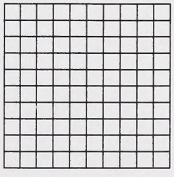
4. Decimal: _____



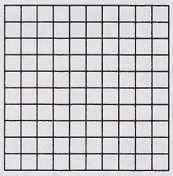
5. Decimal: _____



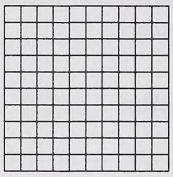
6. Decimal: _____



7. Decimal: _____



8. Decimal: _____



(6) **2.** Complete the following table.

Decimal	Expanded Form
	$5+0.1+0.05$
9.37	
	$6+0.4+0.08$
10.01	
0.62	
	$7+0.06$